Chapter II: Alternatives

The following sections of this chapter describe the No Action Alternative along with two action alternatives associated with the Yosemite Valley Loop Road Project, a list of Actions Common to All Action Alternatives, Alternatives Considered but Dismissed, a summarized comparison of the environmental consequences of each alternative, and identification of the Environmentally Preferable Alternative.

Description of the Alternatives

Alternative 1 - The No-Action Alternative

Under the No-Action Alternative, long-needed roadway repair and resurfacing, rehabilitation and/or replacement of damaged and/or poorly functioning culverts, rehabilitation of roadside drainages, ditches and channels, and needed improvements to existing roadside parking areas along the Yosemite Valley Loop Road in Yosemite Valley would not occur. This alternative would result in:

- Continued need for pothole and shoulder patchwork
- Restriction of natural hydrologic flow beneath the road in numerous locations due to collapsed, poorly maintained and/or improperly sized or placed culverts
- Impeded hydrologic connectivity from one side of the road to the other in regions where the roadway transects meadow and wetland areas
- Hindered culvert function and compromised historic feature integrity due to encroachment of brushy vegetation into culverts and headwalls
- Expansion of informal roadside parking, resulting in a steadily increasing number and size of roadside turnouts, and associated impacts to previously undisturbed areas
- Continued deterioration of river embankment adjacent to the Valley View parking area and near Pohono Bridge

In addition to the above, this alternative would not provide needed improvements to facilities adjacent to many roadside turnouts to better accommodate people with disabilities. Figure II-1 presents a project area map with key locations and a typical cross-section of the existing Yosemite Valley Loop Road.

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Placeholder for Figure II-1. (No Action Alternative). Click here to open.

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Actions Common to All Action Alternatives

The following actions are common to all action alternatives for this planning effort. Construction schedules and equipment are common to both action alternatives as well. Figure II-2 presents the pavement pulverization process that is common to construction activities in both Alternative 2 and Alternative 3. Figure II-3 depicts existing and proposed culverts in the project area that are common to Alternative 2 and Alternative 3.

- The existing roadway would be pulverized and re-surfaced to a standard paved width of 22 feet where possible (10 foot width lanes and 1 foot shoulders), which is consistent with the original 1927 roadway width.
- The majority of culverts along the roadway would be replaced with larger sized pipes. Additional culverts would be placed along the roadway in select areas where they are needed to facilitate improved drainage.
- Improvements to roadside drainage facilities (e.g., ditches and culverts) would be made along Southside Drive between Housekeeping Camp and the intersection of Northside and Southside Drives at Curry Village. This segment of the project area would be resurfaced and repaved as part of the ongoing East Valley Utilities Improvement Project.
- Existing stonework of culvert headwalls (both stone-mortar and drylaid) that have been determined to be contributing features to the Yosemite Valley Historic District would be salvaged and reused to construct new headwalls. In locations where culvert pipe size would be increased, the headwalls would be reconstructed in a masonry pattern consistent with the original style. Any additional stone, mortar, and/or masonry used would be consistent with the original materials of the headwalls in terms of color, texture, depth, width, and pattern.
- For stone headwalls that have been determined not to be contributing features to the Yosemite Valley Historic District, concrete headwalls with stone veneer would be constructed in locations where culvert pipe size will be increased. The size and type of stone used for the veneer would be compatible in size, color and texture of existing headwalls. In isolated cases, culverts with stone headwalls would be replaced with drop inlets.
- Channel outlets of select culverts would be enhanced with the placement or repair of energy dissipaters. Large box culverts with damaged channel outlets would be rehabilitated to enhance hydrologic flow.
- Surface damage caused by past and recent high-water events would be repaired on the El Capitan Bridge.
- In-place roadway pulverization methods would be utilized to recycle existing pavement and road base materials to adaptively reuse as new road base prior to repaving the roadway (figure II-2).
- The project may locate an asphalt batch plant in Yosemite Valley to support resurfacing activities. The batch plant would be located either at the Pohono Pit or at the Woodlot. The batch plant would be removed when resurfacing activities were completed.
- Roadside shoulders would be reinforced at select locations of vehicle ingress and egress to and from the roadway. A reinforced shoulder would protect the new road bed from deterioration.
- Five trees (with a diameter greater than 12”) that are directly adjacent to the Yosemite Valley Loop Road would be removed because they compromise proper culvert function, are leaning over the roadway and have been hit by large vehicles such as RV’s, trucks or buses, or are directly located within areas that require grading for culvert rehabilitation and construction.

- Selective brush clearing at some locations along the roadway (up to 8 feet off road prism) would take place to improve visibility and visitor safety, preserve the integrity of the roadbed, accommodate culvert placement and rehabilitation, and reduce obstructions associated with snow removal operations.
- Needed accessibility improvements would take place (e.g., crosswalks, handicap parking spaces, and curb cut ramps) to facilities adjacent to many roadside turnouts in order to better accommodate people with disabilities.
- Installation of an integrated utility corridor beneath Southside Drive from Pohono Bridge to Wawona Road intersection would take place. This utility corridor would include a high voltage and communications duct bank, as well as a pipe conduit for future use. This action is part of the Wawona Tunnel and Turtleback Dome Communications Improvement Project but is proposed to coincide with construction activities on the Yosemite Valley Loop Road Project to prevent disruption of the new Yosemite Valley Loop Road shortly after it has been repaired and resurfaced.

Construction Equipment

The construction equipment used for the Yosemite Valley Loop Road Project would likely include air compressors, backhoes, roadway pulverization equipment, compactors, concrete mixers, concrete pumps, concrete vibrators, dozers, generators, graders, loaders, pavers, impact wrenches, jack hammers and other pneumatic tools. Figure II-2 shows a cross section of a typical roadway pulverizing process.

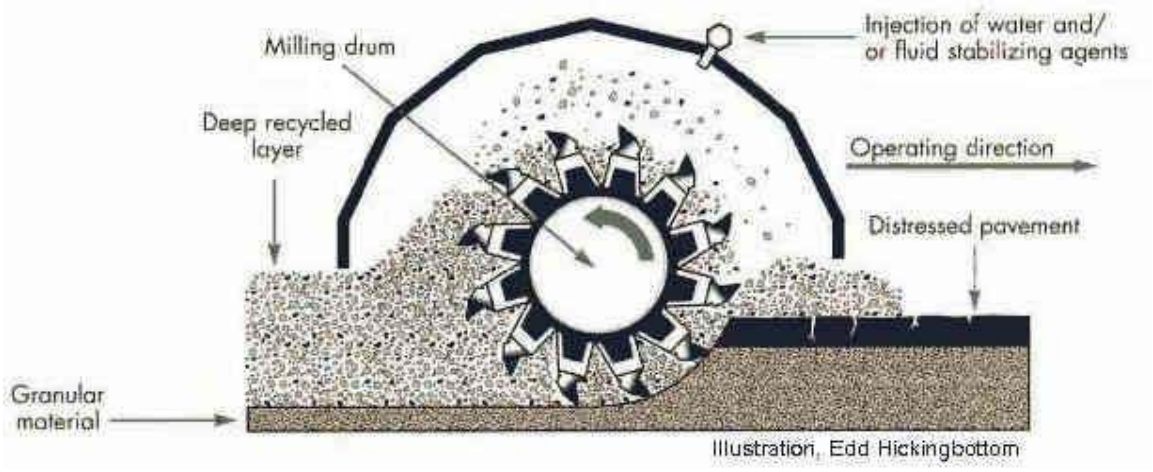

Figure II-2. A Typical Roadway Pulverization Process. Source: http://www.highwaysmaintenance.com

Placeholder for Figure II-3. (Existing and Proposed Culverts Common to All Action Alternatives). Click here to open.

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Schedule

Construction is expected to be implemented in two phases:

- Culvert rehabilitation and replacement, and tree removal/brush clearing would commence in fall 2006.
- Road recycling, pulverization, and repaving would commence in 2007.
- The installation of the utility duct bank beneath Southside drive between Pohono Bridge and the Wawona Road intersection would take place after the fall 2006 construction activities but prior to the repavement of the Yosemite Valley Loop Road in 2007.
- Most construction activities are expected to take place primarily during daylight hours between 6:00 am and 6:00 pm. However, some activities may take place during nighttime hours.

Alternative 2: Rehabilitation of and Improvements to the Roadway, Drainages, and Roadside Parking (Preferred Alternative)

Alternative 2 proposes repaving of the Yosemite Valley Loop Road, improvements to roadside parking areas, and rehabilitation and addition of culverts. Figure II-4 depicts two areas adjacent to the roadway that are proposed for rehabilitation under Alternative 2. Figure II-5 presents the typical cross-sections of the roadway proposed for rehabilitation under Alternative 2 for the Yosemite Valley Loop Road, Sentinel Drive, and El Capitan Crossover. Figure II-6 presents improvements to roadside parking areas under Alternative 2; these improvements are detailed in table II-1. Below is a summary of improvements to the entire project area called for under Alternative 2, as well as specific improvements proposed to individual segments of the Yosemite Valley Loop Road.

The Entire Project Area

- Parking controls (e.g., roadside barriers and/or curbing) would be placed along the current footprint of select roadside turnouts to prevent continued expansion of these roadside turnouts.
- Generally, turnouts that are paved would be repaved; turnouts that are graveled would be re-graded and graveled. However, improvements, such as paving and curbing, would be made to some heavily used unpaved turnouts, as described below.
- Some roadside turnouts within the project area would be removed and/or redistributed to safer areas, as described below. Parking capacity in Yosemite Valley would be reduced by less than 1%. The National Park Service will look for opportunities to accommodate this loss of parking in other future projects where possible.
- If the National Park Service has additional funding available, new locations would be identified for installation of a permeable subgrade beneath the roadway.

Southside Drive from Pohono Bridge to Wawona Road (Highway 41)

- Improvements would be made to roadside drainages adjacent to Pohono Bridge to mitigate existing river bank erosion caused by improper drainage systems and to provide river bank rehabilitation and restoration to the area. Improvements include redirection of roadside run-off, placement of stone to match existing bank elevations, and bank stabilization adjacent to the bridge.

- The Fern Spring turnout would be reduced in size; An adjacent section of the Valley Loop Trail will be repaired after improving culverts in the area.
- The Theodore Roosevelt turnout would be reduced in size and paved.

Southside Drive from Bridalveil Straight to the intersection with Sentinel Drive

- Improvements would be made to foot and bike paths immediately adjacent to the roadway (i.e., those that share a curb). Improvements to these pathways include raised elevation, repavement, and/or pathway delineation.
- Accessibility improvements would be made to wayside exhibits along Bridalveil Straight.
- A permeable subgrade would be installed beneath the roadway along a portion of the Sentinel Creek drainage area to improve hydrologic connectivity from one side of the roadway to the other.

Southside Drive from Sentinel Bridge to the intersection with Northside Drive at Curry Village

- Improvements would be made to foot and bike paths immediately adjacent to the roadway (i.e., those that share a curb). Improvements to these pathways could include raised elevation, repavement, and/or pathway delineation.
- Parking controls (e.g., roadside barrier stones and/or curbing) would be placed along the roadway and along the current footprint of select roadside turnouts to protect the new roadbed and prevent expansion of roadside parking in these areas.

Northside Drive from Stoneman Bridge to the Village Day-use Parking intersection (Camp 6)

- Parking controls (e.g., roadside barrier stones and/or curbing) would be placed along the roadway and along the current footprint of select roadside turnouts to protect the new roadbed and prevent expansion of roadside parking in these areas.

Yosemite Village Day-Use Parking Area

This area includes Sentinel Drive and Northside Drive between the existing Yosemite Village Day-use parking area intersection (Camp 6) and the western terminus of the three-way intersection beyond Sentinel Drive.

- The roadway would be pulverized and repaved only.
- No improvements to parking controls would take place in this area because these actions would be addressed in the Yosemite Village Interim Parking Improvements Project (Camp 6).

Northside Drive from Yosemite Lodge to El Capitan Straight

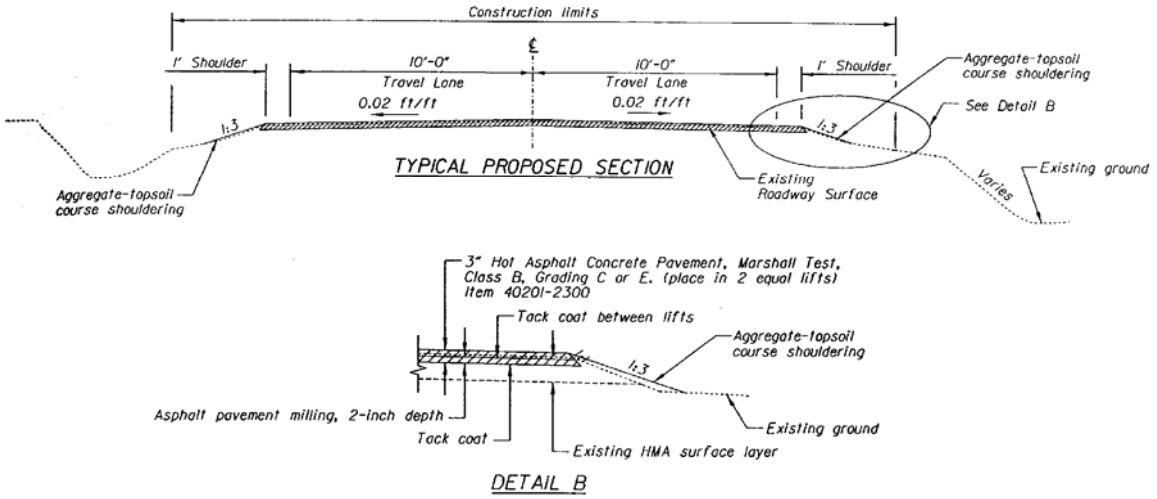
- Wosky Pond turnout would be paved and curbed.
- Curbing would be constructed along the El Capitan Straight turnout on Northside Drive to protect El Capitan Meadow. The existing No Parking stakes would be removed.
- A permeable subgrade would be installed beneath roadway at El Capitan Meadow to improve the hydrologic connectivity from one side of the roadway to the other.
- Parking controls (e.g., roadside barrier stones and/or curbing) would be placed along the roadway and along the current footprint of select roadside turnouts to protect the new roadbed and prevent expansion of roadside parking in these areas.

Northside Drive from El Capitan Straight to Pohono Bridge

- Approximately 150 feet of stone revetment adjacent to the Valley View parking area would be repaired and regrouted to help maintain the integrity of the parking area and adjacent pedestrian walkway.
- Two roadside turnouts would be removed and relocated to safer locations.

Figure II-4. An area where repairs to river revetment adjacent to the Valley View parking area would occur (left) and an example of where improvements to trails are needed as prescribed under Alternative 2. (NPS Photos)

Typical Proposed Cross-Section for El Capitan Crossover, Sentinel Drive and majority of Northside Drive



Typical Proposed Cross-Section for Southside Drive and sections of Northside Drive*

* Between Yosemite Village and Yosemite Lodge and either side of El Capitan Crossover

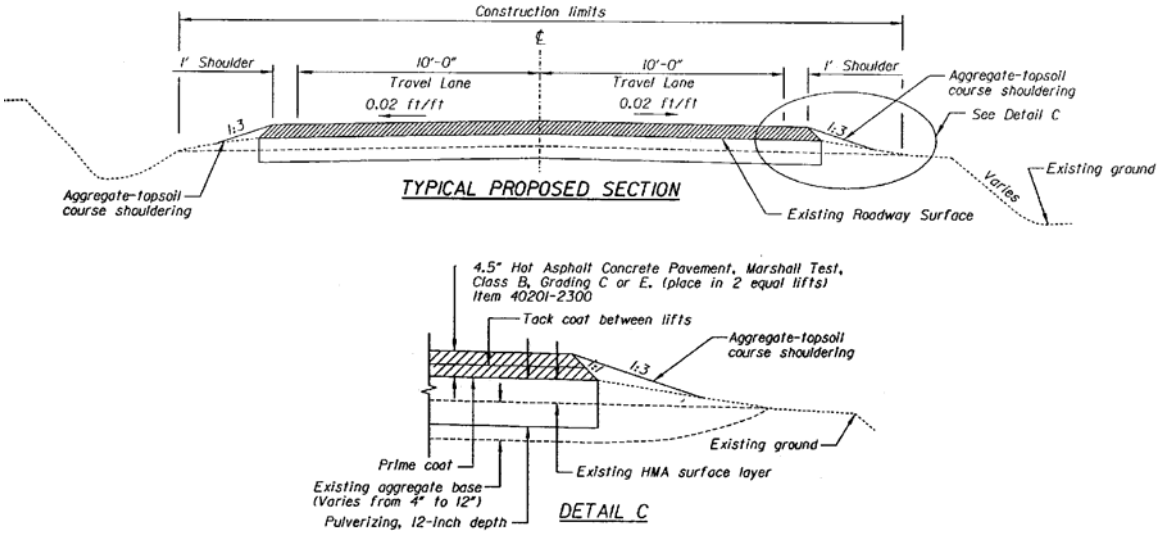


Figure II-5. Typical Proposed Road Improvement Cross-Sections. Source: Carter::Burgess, 2005

Placeholder for Figure II-6. (Alternative 2: Proposed Roadside Parking Actions). Click here to open.

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Table II-1
Alternative 2 Parking Actions

Map Number[1]	Location[2]	Condition of Existing Roadside Parking[3]	Proposed Roadside Parking Condition[4]
SOUTHSIDE DRIVE FROM POHONO BRIDGE TO WAWONA ROAD			
1	1003+57 - 1004+23	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary; add barrier stones and a paved apron.
2	1003+55 - 1004+55	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary; add barrier stones and a paved apron.
3	1008+00 - 1010+20	Fern Spring paved turnout, south side of roadway	Repave, limiting turnout width to accommodate 18-ft. wide parallel parking. Include a handicap-accessible parking space. Replace concrete barriers with granite curbs.
4	1011+65 - 1013+25	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary, and add a paved apron.
5	1024+00 - 1029+00	Theodore Roosevelt unpaved turnout, south side of roadway	Pave and curb. Regrade east and west edges.
6	1039+60 - 1043+01	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary, and add a paved apron.
SOUTHSIDE DRIVE FROM WAWONA ROAD TO EL CAPITAN CROSSOVER			
7	1052+00 - 1071+00	Bridalveil Straight paved turnout, north side of roadway	Repave; replace curb with stone curb.
8	1061+00 - 1067+30	Bridalveil Straight paved turnout, south side of roadway	Repave; replace curb with stone curb.
9	1075+56 - 1076+18	Paved turnout, north side of roadway	Repave and recurb.
10	1077+00 - 1077+94	Paved turnout, north side of roadway	Repave and recurb.
11	1080+70 - 1084+70	Paved turnout, north side of roadway	Remove turnout and place barrier stones.
12	1090+07 - 1092+13	Paved turnout, north side of roadway	Repave, expand and curb.
13	1116+17 - 1119+17	Paved turnout, north side of roadway	Repave, expand and curb.
14	1121+70 - 1123+95	Paved turnouts, north and south sides of roadway	Repave and curb.
SOUTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO SENTINEL DRIVE			
15	1136+50 - 1139+00	Paved turnouts, north and south sides of roadway	Repave and curb.
16	1148+00 - 1151+ 00	Big Wall Geology interpretive display parking area, north side of roadway (paved, with trees in parking area)	Repave and curb.
17	1160+25 - 1161+40	Unpaved turnout, north side of roadway	No actions proposed.
18	1167+55 - 1168+80	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary and add barrier stones.
19	1186+00 - 1188+64	Yosemite Falls View paved turnouts, north and south sides of roadway	Repave and replace barrier stones with curbs.
20	1219+10 - 1222+00	Four Mile Trail trailhead paved turnout, north side of roadway	Repave and replace concrete barriers with curbs.

[1] Map number corresponds to figure II-6.
[2] Location is represented by a range of station numbers, identified on schematic design drawings, which describe the exact location along the roadway of a feature. Source: *Preliminary 70% Plans for Proposed Valley Loop Road (Southside-Northside Drive)* (Carter::Burgess, 2005). Copies of the schematic design drawings for the Valley Loop Road Project are available to the public upon request.
[3] Describes existing condition of turnout or parking area per *Yosemite National Park Parking Inventory for Yosemite Valley, Wawona, the Merced River Gorge, and the El Portal Administrative Site* (David Evans and Associates, 2005).
[4] Describes proposed condition of turnout or parking area per *Preliminary 70% Plans for Proposed Valley Loop Road (Southside-Northside Drive)* (Carter::Burgess, 2005).

Table II-1 (continued)
Alternative 2 Parking Actions

Map Number[1]	Location[2]	Condition of Existing Roadside Parking[3]	Proposed Roadside Parking Condition[4]
SOUTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO SENTINEL DRIVE (CONTINUED)			
21	1219+00 - 1221+78	Four Mile Trail trailhead paved turnout, south side of roadway	Repave turnout and replace existing barrier stones with curbs. Add barrier stones at west end of turnout.
22	1229+68 - 1233+89	Swinging Bridge paved parking area, north side of roadway	Repave and add stone curbs.
23	1240+80 - 1252+00	Sentinel Meadow/Chapel Straight paved turnout, north side of roadway	Repave and replace barrier stones with curbs.
SOUTHSIDE DRIVE FROM SENTINEL DRIVE TO CURRY 4-WAY			
24	1270+50 - 1271+50	Unpaved turnout, south side of roadway	No actions proposed.
25	1272+00 - 1272+80	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary, and add paved apron.
26	1277+25 - 1280+25	Unpaved turnout, north side of roadway	No actions proposed.
27	1303+00 - 1305+00	LeConte Memorial Lodge unpaved parking area	No actions proposed in this project (part of Shuttle Bus Stop Project).
28	1304+50 - 1308+00	Paved turnout, south side of roadway	No actions proposed.
29	1319+00 - 1322+00	Unpaved turnout, south side of roadway (adjacent to stop sign)	Remove turnout and block with concrete curb.
NORTHSIDE DRIVE FROM CURRY 4-WAY TO SENTINEL DRIVE (BANK 4-WAY)			
30	2010+00 - 2013+00	Unpaved turnout, east side of roadway (at River Campgrounds)	Remove turnout and block with concrete curb.
31	2014+50 - 2017+00	Flood interpretive display paved turnout, east side of roadway	Repave and curb.
32	2023+00 - 2025+50	Paved turnout, east side of roadway	Repave and curb.
33	2041+00 - 2047+00	Unpaved shoulder, south side of roadway	No actions proposed.
SENTINEL DRIVE			
34	45+00 - 52+00	Unpaved turnout, west side of roadway (between Cook's Meadow & Sentinel Bridge)	Add paved apron.
35	53+00 - 56+00	Unpaved turnout, west side of roadway (western end of Northside Drive along Cook's Meadow)	Add paved apron.
NORTHSIDE DRIVE FROM SENTINEL DRIVE TO CAMP 4			
36	2050+40 - 2055+51	Unpaved turnouts, north and south sides of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
37	2064+00 - 2072+00	Paved turnouts, north and south sides of roadway	Repave and recurb.
38	2083+50 - 2085+60	Unpaved shoulder w/ steep edge, north side of roadway; currently blocked by barrier stones	No actions proposed (turnout no longer exists).
39	2084+50 - 2086+30	Unpaved shoulder w/ steep edge, south side of roadway; currently blocked by barrier stones	No actions proposed (turnout no longer exists).
40	2086+25 - 2086+90	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave and curb.
41	2087+00 - 2088+60	Unpaved turnout (electric utility box access), south side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
42	2091+50 2092+25	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave and curb.
43	2095+10 - 2095+50	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave and curb.

Table II-1 (continued)
Alternative 2 Parking Actions

Map Number[1]	Location[2]	Condition of Existing Roadside Parking[3]	Proposed Roadside Parking Condition[4]
NORTHSIDE DRIVE FROM CAMP 4 TO EL CAPITAN CROSSOVER			
44	2147+00 - 2149+00	Eagle Creek unpaved parking area, south side of roadway	Regrade and supplement with gravel as necessary, and add paved apron. Reset barrier stones around existing footprint.
45	2155+92 - 2157+47	Big Oak unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary, and add paved apron. Reset barrier stones around existing footprint.
46	2167+94 - 2168+64	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
47	2172+60 - 2173+90	Unpaved turnout, north side of roadway	Pave and curb, following existing footprint.
48	2175+00 - 2176+00	Unpaved turnout, south side of roadway	Pave and curb, following existing footprint; remove barrier stones.
49	2190+66 - 2192+37	El Capitan Picnic Area Junction unpaved turnout, south side of roadway	Pave and curb, following existing footprint.
50	2195+13 - 2196+51	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
51	2200+85 - 2202+05	Wosky Pond unpaved turnout, south side of roadway	Pave and curb, following existing footprint.
52	2214+40 - 2219+80	Devil's Elbow unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
EL CAPITAN CROSSOVER			
53	10+00 - 15+85	Unpaved turnout, north of bridge, west side of roadway	Regrade and supplement with gravel as necessary, following existing footprint, and add a paved apron.
54	11+99 - 14+61	Paved turnout, north of bridge, east side of roadway	Repave and curb.
55	17+50 - 20+00	Paved turnout south of bridge, west side of roadway	Repave and recurb.
56	17+70 - 20+00	Unpaved turnout south of bridge, east side of roadway	Regrade and supplement with gravel as necessary, following existing footprint, and add a paved apron.
57	27+50 - 28+30	Unpaved turnout, east side of roadway (just north of Southside of roadway Drive)	Regrade and supplement with gravel as necessary, following existing footprint, and add a paved apron.
NORTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO POHONO BRIDGE			
58	2232+33 - 2251+74	El Capitan Meadow paved turnout, south side of roadway	Repave, curb and remove "No Parking" posts.
59	2252+51 - 2253+69	Unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary, and add paved apron. Reset barrier stones around existing footprint.
60	2264+00 - 2266+00	Wood Lot access road unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary, and add a paved apron. Add berm around north side of parking area. Place barrier stones next to trees to delimit turnout area from parking area.
61	2278+53 - 2281+53	Bridalveil/Hanging Valley View paved turnout, south side of roadway	Repave and curb turnout. Replace asphalt sidewalk with concrete. Remove parking on unpaved shoulder west of existing paved turnout by grading.
62	2289+10 - 2290+70	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
63	2309+41 - 2310+76	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
64	2311+35 - 2313+30	Unpaved turnout, south side of roadway	Remove turnout and place barrier stones.
65	2316+65 - 2318+10	Unpaved turnout, south side of roadway	Remove turnout and place barrier stones.

Table II-1 (continued)
Alternative 2 Parking Actions

Map Number[1]	Location[2]	Condition of Existing Roadside Parking[3]	Proposed Roadside Parking Condition[4]
NORTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO POHONO BRIDGE (CONTINUED)			
66	2319+75 - 2321+05	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary, add a paved apron, and place barrier stones around existing footprint.
67	2323+25 - 2324+50	Valley View paved parking area, south side of roadway	Repave turnout and repair curbs and gutters. Construct retaining wall with stone facing along riverbank and repair grouted rubble.
68	2332+60 - 2334+50	Unpaved turnout, south side of roadway (just east of Pohono Bridge)	Regrade and supplement with gravel as necessary, following existing footprint, and add a paved apron.

Alternative 3: Resurfacing the Roadway Only with Drainage Improvements

Alternative 3 proposes resurfacing of the Yosemite Valley Loop Road and adjacent roadside parking, and rehabilitation and addition of culverts. Proposed actions to roadside parking areas under Alternative 3 are depicted below in figure II-7; detailed information on each roadside turnout is presented in table II-2. Alternative 3 improvements are summarized below.

Improvements to Roadway Conditions, Roadside Parking, and Roadside Drainages

- Roadside parking would be replaced-in-kind. Turnouts that are paved would be repaved; turnouts that are graveled would be re-graded and graveled. There would be no selective improvements to heavily used or popular turnouts. This would result in:
    - No redistribution of current roadside parking locations. Roadway shoulders would be reinforced in areas of vehicle ingress and egress to protect the road edge.
    - Current curbing and roadside barriers would remain or be restored at existing locations. No additional roadside barriers would be constructed along the roadway or at roadside turnouts.

Placeholder for Figure II-7. (Alternative 3: Proposed Roadside Parking Actions). Click here to open.

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Table II-2
Alternative 3 Parking Actions

Map Number[5]	Location[6]	Condition of Existing Roadside Parking[7]	Proposed Roadside Parking Condition[8]
SOUTHSIDE DRIVE FROM POHONO BRIDGE TO WAWONA ROAD			
1	1003+57 - 1004+23	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
2	1003+55 - 1004+55	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
3	1008+00 - 1010+20	Fern Spring paved turnout, south side of roadway	Repave.
4	1011+65 - 1013+25	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
5	1024+00 - 1029+00	Theodore Roosevelt unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
6	1039+60 - 1043+01	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
SOUTHSIDE DRIVE FROM WAWONA ROAD TO EL CAPITAN CROSSOVER			
7	1052+00 - 1071+00	Bridalveil Straight paved turnout, north side of roadway	Repave.
8	1061+00 - 1067+30	Bridalveil Straight paved turnout, south side of roadway	Repave.
9	1075+56 - 1076+18	Paved turnout, north side of roadway	Repave.
10	1077+00 - 1077+94	Paved turnout, north side of roadway	Repave.
11	1080+70 - 1084+70	Paved turnout, north side of roadway	Repave.
12	1090+07 - 1092+13	Paved turnout, north side of roadway	Repave.
13	1116+17 - 1119+17	Paved turnout, north side of roadway	Repave.
14	1121+70 - 1123+95	Paved turnouts, north and south sides of roadway	Repave.
SOUTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO SENTINEL DRIVE			
15	1136+50 - 1139+00	Paved turnouts, north and south sides of roadway	Repave.
16	1148+00 - 1151+ 00	Big Wall Geology interpretive display parking area, north side of roadway (paved, with trees in parking area)	Repave.
17	1160+25 - 1161+40	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
18	1167+55 - 1168+80	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
19	1186+00 - 1188+64	Yosemite Falls View paved turnouts, north and south sides of roadway	Repave.
20	1219+10 - 1222+00	Four Mile Trail trailhead paved turnout, north side of roadway	Repave.
21	1219+00 - 1221+78	Four Mile Trail trailhead paved turnout, south side of roadway	Repave.
22	1229+68 - 1233+89	Swinging Bridge paved parking area, north side of roadway	Repave.
23	1240+80 - 1252+00	Sentinel Meadow/Chapel Straight paved turnout, north side of roadway	Repave.

[5] Map number corresponds to figure II-7.
[6] Location is represented by a range of station numbers, identified on schematic design drawings, which describe the exact location along the roadway of a feature. Source: *Preliminary 70% Plans for Proposed Valley Loop Road (Southside-Northside Drive)* (Carter::Burgess, 2005). Copies of the schematic design drawings for the Valley Loop Road Project are available to the public upon request.
[7] Describes existing condition of turnout or parking area per *Yosemite National Park Parking Inventory for Yosemite Valley, Wawona, the Merced River Gorge, and the El Portal Administrative Site* (David Evans and Associates, 2005).
[8] Describes proposed condition of turnout or parking area per *Preliminary 70% Plans for Proposed Valley Loop Road (Southside-Northside Drive)* (Carter::Burgess, 2005).

Table II-2 (continued)
Alternative 3 Parking Actions

Map Number[5]	Location[6]	Condition of Existing Roadside Parking[7]	Proposed Roadside Parking Condition[8]
SOUTHSIDE DRIVE FROM SENTINEL DRIVE TO CURRY 4-WAY			
24	1270+50 - 1271+50	Unpaved turnout, south side of roadway	No actions proposed.
25	1272+00 - 1272+80	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
26	1277+25 - 1280+25	Unpaved turnout, north side of roadway	No actions proposed.
27	1303+00 - 1305+00	LeConte Memorial Lodge unpaved parking area	No actions proposed in this project (part of Shuttle Bus Stop Project).
28	1304+50 - 1308+00	Paved turnout, south side of roadway	No actions proposed.
29	1319+00 - 1322+00	Unpaved turnout, south side of roadway (adjacent to stop sign)	Regrade and supplement with gravel as necessary.
NORTHSIDE DRIVE FROM CURRY 4-WAY TO SENTINEL DRIVE (BANK 4-WAY)			
30	2010+00 - 2013+00	Unpaved turnout, east side of roadway (at River Campgrounds)	No actions proposed.
31	2014+50 - 2017+00	Flood interpretive display paved turnout, east side of roadway	Repave.
32	2023+00 - 2025+50	Paved turnout, east side of roadway	Repave.
33	2041+00 - 2047+00	Unpaved shoulder, south side of roadway	No actions proposed.
SENTINEL DRIVE			
34	45+00 - 52+00	Unpaved turnout, west side of roadway (between Cook's Meadow & Sentinel Bridge)	Regrade and supplement with gravel as necessary.
35	53+00 - 56+00	Unpaved turnout, west side of roadway (western end of Northside Drive along Cook's Meadow)	Regrade and supplement with gravel as necessary.
NORTHSIDE DRIVE FROM SENTINEL DRIVE TO CAMP 4			
36	2050+40 - 2055+51	Unpaved turnouts, north and south sides of roadway	Regrade and supplement with gravel as necessary.
37	2064+00 - 2072+00	Paved turnouts, north and south sides of roadway	Repave.
38	2083+50 - 2085+60	Unpaved shoulder w/ steep edge, north side of roadway; currently blocked by barrier stones	Not applicable (turnout no longer exists; currently blocked by barrier stones due to NPS actions taken since parking inventory).
39	2084+50 - 2086+30	Unpaved shoulder w/ steep edge, south side of roadway; currently blocked by barrier stones	Not applicable (turnout no longer exists; currently blocked by barrier stones due to NPS actions taken since parking inventory).
40	2086+25 - 2086+90	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave.
41	2087+00 - 2088+60	Unpaved turnout (electric utility box access), south side of roadway	Regrade and supplement with gravel as necessary.
42	2091+50 2092+25	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave.
43	2095+10 - 2095+50	Emergency Parking Only (fire hydrant access) paved turnout, south side of roadway	Repave.
NORTHSIDE DRIVE FROM CAMP 4 TO EL CAPITAN CROSSOVER			
44	2147+00 - 2149+00	Eagle Creek unpaved parking area, south side of roadway	Regrade and supplement with gravel as necessary.
45	2155+92 - 2157+47	Big Oak unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary.
46	2167+94 - 2168+64	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
47	2172+60 - 2173+90	Unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.

Table II-2 (continued)
Alternative 3 Parking Actions

Map Number[5]	Location[6]	Condition of Existing Roadside Parking[7]	Proposed Roadside Parking Condition[8]
48	2175+00 – 2176+00	Unpaved turnout, south side of roadway	No actions proposed.
49	2190+66 - 2192+37	El Capitan Picnic Area Junction unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
50	2195+13 - 2196+51	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
51	2200+85 - 2202+05	Wosky Pond unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
52	2214+40 - 2219+80	Devil's Elbow unpaved turnout, north side of roadway	Regrade and supplement with gravel as necessary.
EL CAPITAN CROSSOVER			
53	10+00 - 15+85	Unpaved turnout, north of bridge, west side of roadway	Regrade and supplement with gravel as necessary.
54	11+99 - 14+61	Paved turnout, north of bridge, east side of roadway	Repave.
55	17+50 - 20+00	Paved turnout south of bridge, west side of roadway	Repave.
56	17+70 - 20+00	Unpaved turnout south of bridge, east side of roadway	Regrade and supplement with gravel as necessary.
57	27+50 - 28+30	Unpaved turnout, east side of roadway (just north of Southside of roadway Drive)	Regrade and supplement with gravel as necessary.
NORTHSIDE DRIVE FROM EL CAPITAN CROSSOVER TO POHONO BRIDGE			
58	2232+33 - 2251+74	El Capitan Meadow paved turnout, south side of roadway	Repave.
59	2252+51 - 2253+69	Unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary.
60	2264+00 - 2266+00	Wood Lot access road unpaved parking area, north side of roadway	Regrade and supplement with gravel as necessary.
61	2278+53 - 2281+53	Bridalveil/Hanging Valley View paved turnout, south side of roadway	Repave.
62	2289+10 - 2290+70	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
63	2309+41 - 2310+76	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
64	2311+35 - 2313+30	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
65	2316+65 - 2318+10	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
66	2319+75 - 2321+05	Unpaved turnout, south side of roadway	Regrade and supplement with gravel as necessary.
67	2323+25 - 2324+50	Valley View paved parking area, south side of roadway	Repave.
68	2332+60 - 2334+50	Unpaved turnout, south side of roadway (just east of Pohono Bridge)	Regrade and supplement with gravel as necessary.

Alternatives Considered but Dismissed

The National Park Service considered a range of actions when developing possible alternatives for the Yosemite Valley Loop Road Project. These actions were analyzed, considered and dismissed because they did not fully satisfy the objectives of this planning effort. These actions were dismissed for one of the following reasons:

- The action does not satisfy the project's purpose and need.
- Less environmentally damaging options are available.
- The action would cause unacceptable environmental, cultural, or social impacts.
- The action presents unacceptable engineering risks or constraints with an associated increase in costs.
- The action conflicts with the guidance and direction provided in the *Revised Merced River Plan*.

Widen Southside Drive (between Sentinel Bridge and Curry Village)

The *Yosemite Valley Plan* (NPS 2000a) calls for the widening Southside Drive to 26 feet between Sentinel Bridge and the intersection of Northside and Southside Drives at Curry Village. This action is considered beyond the purpose and need of the Yosemite Valley Loop Road Project, and was dismissed from further consideration.

Formalize all Roadside Parking with Pavement and Curbing

All roadside turnouts that the National Park Service sanctions at specific locations along the Yosemite Valley Loop Road would be formalized by pavement and curbing. All unwanted parking would be removed.

This action would be more appropriately evaluated after the Yosemite Village Interim Parking Improvements Project is completed in order to determine how many roadside parking spaces could be accommodated within the expanded Yosemite Village Day-Use Parking Area (Camp 6) area. Therefore, this action was dismissed from further consideration because it is beyond the purpose and need for this project.

Installation of Foundations for Future West Valley Shuttle Bus Stops

Installation of foundational infrastructure for West Valley Shuttle Bus Stops at select locations where future West Valley shuttle buses could stop (e.g., El Capitan Picnic Area, El Capitan Cross-over, Valley View, Bridalveil Straight, Cathedral Beach Picnic Area, Four Mile Trailhead) was considered. This action was determined to be beyond the purpose and need for this project, and was dismissed from further consideration.

Change in Road Elevation

Increasing the existing road elevation at select locations to reduce road closure during periods of seasonal runoff was considered.

Changes to roadway elevation would require a substantial roadway reconstruction effort. The road prism would need to be widened to support an effective elevation change. This action was dismissed because less environmentally damaging options are available to reduce operational challenges during periods of high seasonal run off, and a project of this nature is beyond the purpose and need for this project.

Exclude portions of Northside Drive from the Project Area

Exclusion of segments of Northside Drive— from Stoneman Bridge through the Yosemite Village Day Use Parking area intersection (Camp 6) and from the Yosemite Lodge at the Falls Intersection to El Capitan Straight— from the Yosemite Valley Loop Road Project was considered.

The *Yosemite Valley Plan* (NPS 2000a) prescribes the removal or adaptive reuse of the above mentioned sections of Northside Drive. The Yosemite Valley Loop Road Project is a road maintenance project and not a project meant for implementation of actions called for in the *Yosemite Valley Plan*. As a result, this action was dismissed as it is beyond the purpose and need for this project.

Formalize Directed Parking Areas

The National Park Service considered formalizing roadside parking in overflow parking areas near the entrance to the Yosemite Village Day Use Parking Area on Northside Drive (Camp 6) with the use of pavement, curbing and striping.

This action would be evaluated as part of the environmental compliance process associated with the Yosemite Village Interim Parking Improvements Project to determine if overflow parking would continue to be accommodated within the expanded Yosemite Village Day Use Parking Area (Camp 6). Less environmentally damaging options are available to manage areas used for overflow parking on peak season visitation periods. Therefore, this action was dismissed as it is beyond the purpose and need for this project.

Comparison of the Alternatives

The three alternatives presented in this document represent a reasonable range of options for the rehabilitation, restoration, and resurfacing of the Yosemite Valley Loop Road within Yosemite Valley. Table II-3 provides a summary comparison of the potential impacts associated with each of the alternatives, based on the environmental analysis provided in Chapter III.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ) regulations implementing NEPA and the National Park Service NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified (CEQ Regulations, Section 1505.2). Environmentally preferable is defined as "the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

Section 101 of NEPA states that:

> *"It is the continuing responsibility of the Federal Government to … (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."*

Section 101 Requirement 1. *"Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations."*

Conformance: Alternative 2 would best fulfill the responsibilities of the National Park Service as a trustee of the environment for succeeding generations by improving natural hydrologic processes associated with rehabilitating, replacing and/or installing new culverts, by placing curbs and/or barrier stones to help prevent the proliferation and continued encroachment of roadside parking into adjacent sensitive natural and cultural resources, by enhancing the visitor experience at some roadside turnouts by providing greater accessibility for people with disabilities, by improving hydrologic connectivity in the vicinity of Sentinel Creek drainage and the El Capitan Straight through the installation of a permeable subgrade, and by rehabilitating and restoring portions of the bank of the Merced River where non-natural erosion has occurred as a result of poor roadside drainage. Alternative 1 would not provide any of these benefits. Alternative 3 is similar to Alternative 2 with respect to improvement of culverts and overall roadside drainages and enhancement of the visitor experience through improved accessibility for disabled people. However, Alternative 3 would not include installation of the permeable subgrade beneath portions of Southside Drive near Sentinel Creek and along El Capitan Straight to improve hydrologic connectivity in those areas. Alternative 3 would also not address the encroachment of roadside parking on sensitive natural and cultural resource areas.

Section 101 Requirement 2. *"Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings."*

Conformance: Under Alternatives 2 and 3, the roadway would be improved to a consistent width of 22 feet in most areas which would help improve both vehicular and pedestrian safety along the road. Alternatives 2 and 3 would also provide improvement to some roadside turnouts that would allow visitors with disabilities greater access to adjacent trails and interpretive exhibits. Alternative 1 would not provide any of these benefits. Alternative 3 would not provide curbing and/or barrier stones to help prevent the continued proliferation of roadside turnouts, or the encroachment of vehicles into sensitive natural and cultural resource areas.

Section 101 Requirement 3. *"Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences."*

Conformance: Alternative 2 would attain the widest range of beneficial uses of the environment by improving natural hydrologic processes associated with rehabilitating, replacing and/or installing

new culverts, by placing curbs and/or barrier stones to help prevent the proliferation and continued encroachment of roadside parking into adjacent sensitive natural and cultural resource areas, by enhancing the visitor experience at some roadside turnouts by providing greater accessibility for people with disabilities, by improving hydrologic connectivity in the vicinity of Sentinel Creek drainage and El Capitan Straight through the installation of a permeable subgrade and by rehabilitating and restoring portions of the bank of the Merced River where non-natural erosion has occurred as a result of poor roadside drainage. Alternative 1 would not provide any of these benefits. Alternative 3 is similar to Alternative 2 with respect to improving culverts and overall roadside drainage, but it would not include installation of the permeable subgrade beneath portions of the road at Sentinel Creek drainage and El Capitan Straight to improve the overall hydrologic connectivity in those areas. Alternative 3 would also not curtail the encroachment of roadside parking into sensitive natural and cultural resource areas.

Section 101 Requirement 4. *"Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice."*

Conformance: Under Alternatives 2 and 3, the roadway would be improved to a consistent width of 22 feet to address both vehicular and pedestrian safety along the road. In addition, both of these alternatives would rehabilitate culverts along the Yosemite Valley Loop Road, many of which have been determined to be contributing elements to the Yosemite Valley Historic District due to their historic stonework. These headwalls would be rehabilitated in a manner that would maintain their historic integrity. Alternatives 2 and 3 would also provide improvement to some roadside turnouts to allow visitors with disabilities greater access to adjacent trails and interpretive exhibits. Alternative 1 would not provide any of these benefits. Alternative 3 would not provide curbing and/or barrier stones to help prevent the continued proliferation of roadside turnouts, or the encroachment of vehicles into sensitive natural and cultural resource areas.

Section 101 Requirement 5. *"Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities."*

Conformance: Under Alternatives 2 and 3, the roadway would be improved to a consistent width of 22 feet to address both vehicular and pedestrian safety along the road. Alternatives 2 and 3 would also provide improvement to some roadside turnouts to allow visitors with disabilities greater access to interpretive exhibits. Alternative 1 would not provide any of these benefits. Alternative 2 would also improve roadside parking by resurfacing turnouts, provide curbs and/or barrier stones to prevent vehicles from continued encroachment into sensitive natural and cultural resource areas, and install a permeable subgrade under the roadway at Sentinel Creek drainage and El Capitan Straight to provide enhanced hydrologic connectivity from one side of the road to the other, particularly in times of high water. Therefore, Alternative 2 would best achieve a balance between population and resource use, and permit high standards of living and a wide sharing of life's amenities.

Section 101 Requirement 6. *"Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."*

Conformance: Alternatives 2 and 3 would resurface the Yosemite Valley Loop Road in a manner that would pulverize the existing road surface and reuse it as road base prior to resurfacing, and rehabilitate existing culverts (existing culvert head stones will be salvaged and reused to the

extent feasible) and associated roadside drainages. However, Alternative 2 would best enhance the quality of renewable resources and approach maximum recycling of depletable resources by enhancing the hydrologic connectivity along the road at Sentinel Creek drainage and El Capitan Straight through the installation of a permeable subgrade, and by placing curbs and/or barrier stones in many turnouts to help protect sensitive natural and cultural resource areas. Alternative 1 would not provide any of these benefits.

In conclusion, upon full consideration of the elements of Section 101 of NEPA, Alternative 2 represents the environmentally preferable alternative for the Yosemite Valley Loop Road Project.

Table II-3
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
NATURAL RESOURCES		
SOILS		
Informal roadside parking and poor and/or inadequate roadside drainage would continue to occur in some areas along the Yosemite Valley Loop Road, resulting in a localized, long-term, minor to moderate, adverse impact to soils, particularly in those areas identified as being "Highly Valued Resource" soils in the vicinity of Wosky Pond and along the El Capitan Straight.	Curbing and/or the placement of barrier stone at many roadside parking areas, improvements to roadside drainage, the rehabilitation and/or installation of new culverts and the rehabilitation of localized bank erosion near the Pohono Bridge would provide negligible to moderate, long-term, beneficial impacts to soils, particularly in areas where the road passes through "Resilient" and/or "Highly Valued Resource" soil types.	Informal roadside parking would continue to occur in some areas along the Yosemite Valley Loop Road, a localized long-term minor adverse impact to soils. However, improvements to roadside drainages and the rehabilitation and/or installation of culverts would be a long-term, minor to moderate, beneficial impacts, particularly in areas where the road passes through "Resilient" and/or "Highly Valued Resource" soil types. Continued riverbank erosion in the immediate vicinity of the Pohono Bridge would continue to occur, resulting in a long-term, negligible, but adverse impact to soils in this area.
HYDROLOGY, FLOODPLAINS, AND WATER QUALITY		
The rehabilitation, restoration and resurfacing of the Yosemite Valley Loop Road would not occur under Alternative 1. This would represent a localized, long-term, minor to moderate adverse impact to natural hydrologic processes and the overall functional value of adjacent floodplain and meadow areas. River bank erosion adjacent to the Pohono Bridge and the continued failure of the protective embankment along the Valley View turnout would result in localized, long-term, minor, adverse impacts to Merced River water quality.	Improvements to the roadway, roadside parking areas, and adjacent roadside drainages would provide a localized long-term moderate beneficial impact to surface and near-surface hydrologic processes and the overall functional value associated with these important meadow and floodplain areas. The area of river bank erosion that has resulted from poor roadside drainage adjacent to the Pohono Bridge would be rehabilitated and restored. In addition, the river embankment adjacent to the Valley View turnout would be improved. These actions would provide a localized, long-term, minor, beneficial impact to Merced River water quality.	Implementation of Alternative 3 would impact natural hydrologic processes and the overall functional value of adjacent floodplain and meadow areas to the same extent as described for Alternative 2. However, the absence of a permeable subgrade in select areas would contribute to impeding natural hydrologic connectivity resulting in localized, long-term, minor, adverse impacts to natural hydrologic processes and the overall functional value of adjacent floodplain and meadow areas.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
WETLANDS		
Overall, impacts to wetlands and aquatic habitats along the Yosemite Valley Loop Road are expected to have long-term, minor adverse effects on the size, integrity, and connectivity of wetlands in Yosemite Valley. Wetland impacts associated with Alternative 1 are expected to be localized, long-term, minor, adverse impacts due to continued improper hydrologic connectivity in areas adjacent to wetland and aquatic habitats.	The proposed improvements to the Yosemite Valley Loop Road drainage facilities included in Alternative 2 are expected to have long-term beneficial effects on wetland and aquatic habitats through restoration of more natural surface and near-surface water flows throughout the wetlands and between the wetlands and the river. Although construction activities are expected to result in localized, short-term, minor, adverse effects on wetland and aquatic habitats along the roadway, overall, net local, long-term, minor to moderate, beneficial effects are expected on wetland and aquatic habitats in these areas.	Implementation of Alternative 3 would impact wetlands to the same extent as described for Alternative 2. However, the continued extent of informal roadside parking, the absence of a permeable subgrade in select areas, and a less extensive construction regime would be expected to result in localized, long-term, minor, beneficial impacts to wetlands and adjacent aquatic habitats.
VEGETATION		
Under Alternative 1, roadside parking would continue to occur in an informal manner along portions of the Yosemite Valley Loop Road and poor and inadequate roadside drainage would continue to degrade habitat connectivity in localized areas. These factors would combine to result in a localized, minor, long term, adverse impact to vegetation in Yosemite Valley under Alternative 1.	Implementation of Alternative 2 would disturb vegetation in the vicinity of construction activities resulting in localized, short-term, minor, adverse impacts to communities bisected by the Yosemite Valley Loop Road. However, the benefits of enhanced hydrologic flow due to improvements to drainages along the roadway would outweigh the effects of vegetation removal. In summary, the actions prescribed in Alternative 2 would result in localized, long-term, minor, beneficial impacts to vegetation throughout Yosemite Valley.	Implementation of Alternative 3 would impact vegetation to the same extent as described for Alternative 2. However, the continued extent of informal roadside parking, the absence of a permeable subgrade in select areas, and a less extensive construction regime would be expected to result in localized, long-term, negligible, beneficial impacts to vegetation patterns along the Yosemite Valley Loop Road.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
WILDLIFE		
The greatest impacts to wildlife resulting from Alternative 1 relate to encroachment of sensitive habitat areas by continued expansion of informal roadside parking, and sustained impedance of hydrologic flow as a result of poorly maintained drainages adjacent to the roadway. Sensitive wetland and meadow communities are especially vulnerable to impacts related to visitor use of informal roadside turnouts, disturbed hydrologic flow and unnatural erosion regimes. These areas are highlighted because of their critical importance to wildlife throughout Yosemite Valley. Therefore, Alternative 1 would result in localized, long-term, negligible to minor impacts to wildlife along the Yosemite Valley Loop Road.	Implementation of Alternative 2 would help to protect habitat areas adjacent to the road that are presently encroached upon by informal parking and visitor traffic. The use of roadside barriers and formalization of roadside parking areas would contribute to protection of these areas by minimizing disturbance to sensitive resource areas. These actions would combine with implementation of VERP to result in localized, long-term, negligible to minor, beneficial impacts to wildlife throughout Yosemite Valley.	Overall, implementation of Alternative 3 would impact wildlife to the same extent as described for Alternative 2. However, the continued proliferation of informal roadside parking, the absence of a permeable subgrade in select areas, and a less extensive construction regime would contribute to more restrictive beneficial impacts on wildlife. As a result, implementation of Alternative 3 would result in localized, long-term, negligible, beneficial impacts to wildlife along the Yosemite Valley Loop Road.
SPECIAL-STATUS SPECIES		
Under Alternative 1, parking and roadside activities would continue to occur in an informal manner along portions of the Yosemite Valley Loop Road and poor and/or inadequate roadside drainage would continue to degrade habitat health and connectivity in localized areas. Impacts to special-status species as a result of Alternative 1 are expected to have a localized, long-term, negligible, adverse impact to special status species in Yosemite Valley.	Implementation of Alternative 2 could contribute to the restoration of vegetation communities and habitat areas by enhancing natural surface and subsurface hydrologic processes through culvert improvements and the installation of a permeable subgrade beneath the road in sections prone to seasonal flooding. This proposed work is located in meadow, riparian, and California black oak communities along the roadway, areas which are considered among the most diverse vegetation classes in Yosemite Valley and have the greatest likelihood of supporting species diversity. Communities within and adjacent to wetland and meadow areas may be enhanced by improved hydrologic flow and connectivity. Impacts on special status species associated with these areas would be expected to be long-term, minor, and beneficial in nature.	Overall, implementation of Alternative 3 would impact special-status species to the same extent as described for Alternative 2. However, the continued proliferation of informal roadside parking, the absence of a permeable subgrade in select areas, and a less extensive construction regime would contribute to more restrictive beneficial impacts on special-status species. Therefore, implementation of Alternative 3 would result in localized, long-term, negligible, beneficial impacts to special status species along the Yosemite Valley Loop Road.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
AIR QUALITY		
Under Alternative 1, air quality would continue to be affected by routine maintenance activities with respect to the Yosemite Valley Loop Road, resulting in short term, negligible, adverse affects to air quality.	Air quality effects from Alternative 2 would relate primarily to construction equipment emissions and dust generated during construction activities along the roadway and related to the potential short-term use of an asphalt batch plant. Implementation of Alternative 2 could affect air quality in the vicinity of construction activities resulting in localized, short-term, negligible, adverse effects on overall air quality in Yosemite Valley.	Implementation of Alternative 3 would be expected to result in the same impacts to air quality as described for Alternative 2, with the exception of a shorter duration of construction activities. Therefore, implementation of Alternative 3 could affect air quality in the vicinity of construction activities resulting in short-term, negligible, adverse effects on overall air quality in Yosemite Valley.
NOISE		
Alternative 1 would be expected to result in local, short-term, negligible, adverse impacts to park visitors, residents, and contractors in the vicinity of maintenance activities. This alternative is not expected to have any long-term impact on ambient noise levels in Yosemite Valley.	Alternative 2 would involve operation of heavy-duty construction equipment to pulverize and repave the roadway and to improve roadside drainages. Alternative 2 would be expected to result in local, short-term, minor to moderate, adverse impacts to park visitors, residents, and contractors in the vicinity of maintenance activities. This alternative is not expected to have any long-term impact on ambient noise levels in Yosemite Valley.	Implementation of Alternative 3 would be expected to result in the same impacts to noise as described for Alternative 2, with the exception of a shorter duration of construction activities. Therefore, implementation of Alternative 3 could affect noise in the vicinity of construction activities resulting in short-term, minor to moderate, adverse impacts to park visitors, residents, and contractors in the vicinity of maintenance activities. This alternative is not expected to have any long-term impact on ambient noise levels in Yosemite Valley.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
CULTURAL RESOURCES		
ARCHEOLOGICAL RESOURCES		
Alternative 1 actions consist of continued routine road maintenance and repairs, which would be mitigated in accordance with the 1999 Programmatic Agreement to have no adverse effect on archeological sites. However, under Alternative 1, current indirect adverse impacts due to parking on or adjacent to sites could continue to increase, with a potential for adverse effect.	Most actions proposed under Alternative 2 would result in no effects to archeological sites because they occur in fill or in areas where there are no known archeological resources. The potential for adverse effects to archeological sites exists where construction activities require ground disturbance outside of the current road prism and fill, but these actions would be mitigated in accordance with the 1999 Programmatic Agreement to have no adverse effect. Overall, the implementation of Alternative 2 is expected to result in no adverse effect to archeological resources.	Most actions proposed under Alternative 3 would result in no effects to archeological sites because they occur in fill or in areas where there are no known archeological resources. The potential for adverse effects to archeological sites exists where construction activities require ground disturbance outside of the current road prism and fill, but these actions would be mitigated in accordance with the 1999 Programmatic Agreement to have no adverse effect. Overall, the implementation of Alternative 3 is expected to result in no adverse effect to archeological resources
TRADITIONAL CULTURAL PROPERTIES		
Alternative 1 would continue the maintenance and use of the existing Yosemite Valley Loop Road, including the continued restriction of natural hydrologic flow to areas that may contain traditional cultural resources. However, the impacts of Alternative 1 are not expected to be severe enough to alter the characteristics of the traditional cultural properties which qualify them for the National Register of Historic Places, therefore, Alternative 1 would have no adverse effect.	The proposed improvements to the Yosemite Valley Loop Road and drainage facilities included in Alternative 2 are expected to have long-term, beneficial impacts on areas containing traditional cultural resources through the restoration of more natural hydrologic processes. Although construction activities are expected to result in localized, short-term, minor, adverse impacts on traditional cultural resources, the overall impacts to traditional cultural resources under Alternative 2 are expected to have no adverse effect.	Generally, implementation of Alternative 3 would impact traditional cultural resources to the same extent as described for Alternative 2. However, the absence of a permeable subgrade in select areas would contribute to more restrictive beneficial impacts on traditional cultural resources. Overall, the implementation of Alternative 3 is expected to result in no adverse effect to traditional cultural resources.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
CULTURAL LANDSCAPES, INCLUDING HISTORIC SITES AND STRUCTURES		
Under Alternative 1, while continued routine road maintenance and repairs would be mitigated in accordance with the 1999 Programmatic Agreement to have no adverse effects, natural deterioration would have an eventual adverse effect on historic features if left unchecked. Overall, Alternative 1 is expected to have an adverse effect on the Yosemite Valley cultural landscape.	Construction activities associated with Alternative 2 could result in direct or indirect effects to historic culvert headwalls, the Valley Loop Trail, Stoneman Bridge and Pohono Bridge. All actions associated with Alternative 2 would be carried out in accordance with the guidelines set forth in *Yosemite Valley Loop Road: Historic Character, Culverts and Pullouts, Yosemite National Park* (Brown et al. 2005), the 1999 Programmatic Agreement, and *A Sense of Place: Design Guidelines for Yosemite Valley* (NPS 2005c), and therefore would have no adverse effect on the Yosemite Valley cultural landscape.	Implementation of Alternative 3 would impact cultural landscape resources to the same extent as described for Alternative 2 above, with the exception that improvements to the Valley Loop Trail would not take place. Similar to Alternative 2, these actions would be carried out in accordance with the guidelines set forth in *Yosemite Valley Loop Road: Historic Character, Culverts and Pullouts, Yosemite National Park* (Brown et al. 2005), the 1999 Programmatic Agreement, and *A Sense of Place: Design Guidelines for Yosemite Valley* (NPS 2005c), and therefore would have no adverse effect on the Yosemite Valley cultural landscape.
SOCIAL RESOURCES		
SCENIC RESOURCES		
Under Alternative 1, the existing Yosemite Valley Loop Road would be maintained and operated. Since the Merced River and adjacent meadows are included in the A scenic category, and most of the east Valley area is within the A or B scenic categories, any routine construction activities would be likely to have short-term, adverse effects on scenic resources.	Construction activities are expected to result in localized, short-term, minor, adverse effects on scenic resources. However, overall long-term, minor, beneficial impacts to scenic resources would be expected due to improved hydrologic connectivity, resulting in healthier vegetation landscapes at select vista points. Improved accessibility to key turnouts and parking areas adjacent to viewpoints would also contribute to long-term beneficial impacts to scenic resources.	Overall, implementation of Alternative 3 would impact scenic resources to the same extent as described for Alternative 2. However, the continued proliferation of informal roadside parking, and the absence of a permeable subgrade in select areas would contribute to more restrictive beneficial impacts on scenic resources. A shorter duration of construction activities would be expected to result in beneficial impacts to scenic resources.
VISITOR EXPERIENCE AND RECREATION		
Routine maintenance activities on the Yosemite Valley Loop Road would reduce adverse impacts to visitors from a moderate to minor intensity. However, overall, implementation of Alternative 1 would represent a long-term, moderate, adverse impact to visitor experience and recreation.	Construction activities are expected to result in localized, short-term, minor, adverse impacts on visitor experience and recreational opportunities. However, overall actions proposed as part of Alternative 2 would be expected to have long-term, minor to moderate, beneficial impacts on visitor experience and recreational activities as a result of improved public safety and access to recreational opportunities.	Actions proposed as part of Alternative 3 would be expected to have long-term, negligible to minor, beneficial impacts on visitor experience and recreational activities as a result of improved roadway conditions, public safety, and accessibility.

Table II-3 (continued)
Summary of Environmental Consequences

Alternative 1 No Action	**Alternative 2** Rehabilitation of/Improvements to Roadway, Drainages, and Parking	**Alternative 3** Resurfacing the Roadway Only/Drainage Improvements
PARK OPERATIONS		
Costs associated with operating and maintaining the Yosemite Valley Loop Road would increase over time. The effect on park operations from increased efforts and costs is considered to be moderate. Alternative 1 would have local, long-term, minor to moderate, adverse impacts on park operations.	Alternative 2 is expected to result in both adverse and beneficial impacts to park operations. Local, short-term, minor to moderate, adverse effects on transportation volume, circulation, delays, and safety within Yosemite Valley would be expected during construction activities. Beneficial impacts could be attributed to decreased operational costs of maintaining the Yosemite Valley Loop Road and associated drainages due to the reduced need for major annual repairs. Overall, impacts to park operations would be expected to be long-term, moderate, and beneficial in nature under Alternative 2.	Overall, implementation of Alternative 3 would impact park operations to the same extent as described for Alternative 2. Beneficial impacts could be attributed to decreased operational costs of maintaining the Yosemite Valley Loop Road and associated drainages due to the reduced need for major annual repairs. Overall, impacts to park operations would be expected to be long-term, moderate, and beneficial in nature under Alternative 3. However, a shorter duration of construction activities would be expected to result in beneficial impacts to park operations.

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